

PROJECT DESCRIPTION

GENERAL

THIS PORTION OF THE PROJECT INVOLVES THE INSTALLATION OF A NEW SIGNAL AT THE RECONSTRUCTED INTERSECTION OF MD 589 (RACETRACK ROAD) AND BEAUCHAMP ROAD IN WORCESTER COUNTY. MD 589 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THIS INTERSECTION IS TO OPERATE IN A NEMA SIX PHASE, FULLY-TRAFFIC-ACTUATED MODE. THERE WILL BE AN EXCLUSIVE/PERMISSIVE LEFT TURN FOR BOTH MOVEMENTS ON MD 589. THE THROUGH MOVEMENTS ON MD 589 WILL OPERATE CONCURRENTLY. THE BEAUCHAMP ROAD MOVEMENTS WILL OPERATE CONCURRENTLY.

CONTROLLER REQUIREMENTS

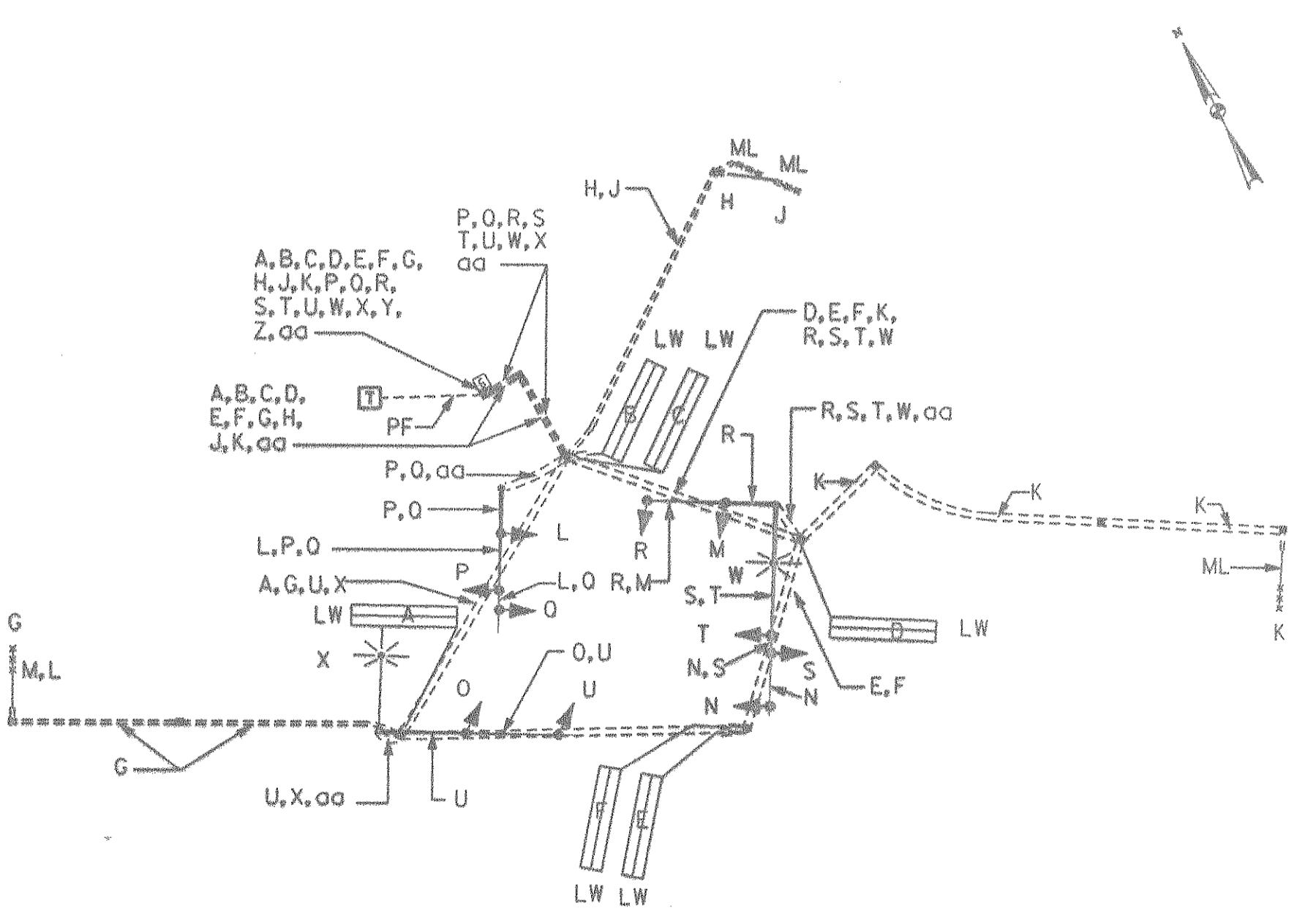
INSTALL AN EIGHT PHASE, FULLY-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH THREE FOUR-CHANNEL TIME DELAY OUTPUT LOOP DETECTOR AMPLIFIERS, TELEMETRY, NIC AND INTERSECTION MONITOR HOUSED IN A NEMA SIZE 6 BASE-MOUNTED CABINET.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7631 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND TELEPHONE NUMBER.

ALL UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NOT TO BE CONSIDERED COMPLETE BECAUSE THESE UNDERGROUND UTILITIES MAY BE MODIFIED PRIOR TO AND DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY.

WIRING DIAGRAM



A
B
C
D
E
F

2-CONDUCTOR CABLE (ALUMINUM SHIELDED)

P
Q
R
S
T
U

7-CONDUCTOR CABLE (NO. 14 A.W.G.)

G
H
I
J
K

MICRO LOOP PROBE LEAD-IN

L
M
N
O

5-CONDUCTOR CABLE (NO. 14 A.W.G.)

W
X

2-CONDUCTOR TRAY CABLE (NO. 12A.W.G.)

Y — *4 AWG FOR INTERSECTION LIGHTING ELECTRICAL SERVICE

Z — *4 AWG FOR TRAFFIC SIGNAL ELECTRICAL SERVICE

aa — BARE COPPER STRANDED GROUND WIRE (NO. 6 A.W.G.)

PF — PROPOSED ELECTRICAL SERVICE BY CHOPTANK

LW — LOOP WIRE (NO. 14 A.W.G.) IN FLEXIBLE TUBING

ML — MICRO LOOP PROBE

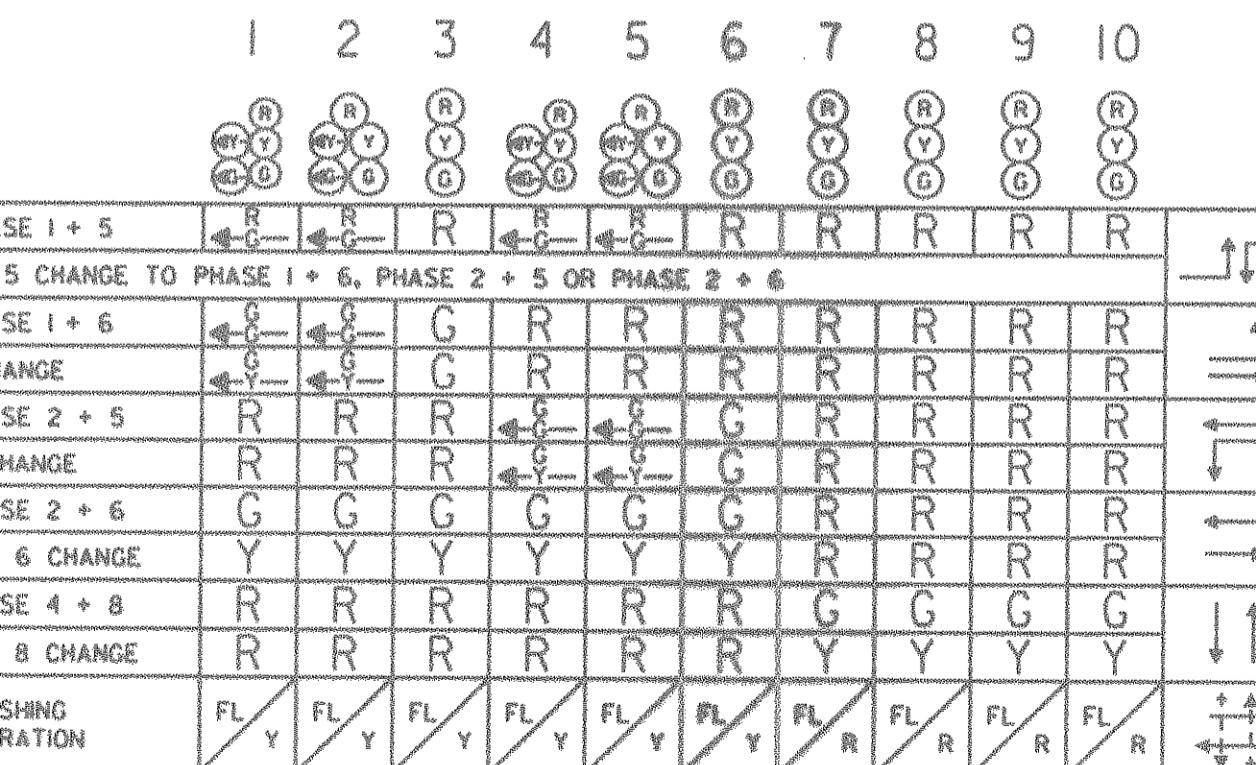
EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION

CATEGORY CODE NO.	SPEC. SECTION	QUANTITY	DESCRIPTION
960035	814	6 EA.	12 IN. 1 WAY 3 SECTION (R,Y,G) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH MAST ARM MOUNTING HARDWARE AND TUNNEL VISORS
960040	814	2 EA.	12 IN. 1 WAY 5 SECTION (R,Y,G,Y,GA) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH MAST ARM MOUNTING HARDWARE AND TUNNEL VISORS
971017	816	1 EA.	EIGHT PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH TELEMETRY, NIC AND INTERSECTION MONITOR HOUSED IN A NEMA SIZE "6" BASE-MOUNTED CABINET
973023	813	194 S.F.	SHEET ALUMINUM SIGNS - 1 EACH R10-I2 (36" X 42") - MAST ARM MOUNT - 2 EACH R3-5R (30" X 36") - MAST ARM MOUNT - 2 EACH R3-6L (30" X 36") - MAST ARM MOUNT - 4 EACH D3-2 (VAR. X 16") - MAST ARM MOUNT - 2 EACH ASSOCIATED SHIELD ASSEMBLY (30" X 51") - POLE MOUNT - 2 EACH ASSOCIATED SHIELD ASSEMBLY (30" X 51") - GROUND MOUNT - 3 EACH W-3-3 (48" X 48") WITH "NEW" PANNEL (30" X 30") AND FLAGS - GROUND MOUNT

900000	814	2 EA.	8 IN./12 IN. 1 WAY 5 SECTION (8" R,Y,G - 12" Y,A,GA) ADJUSTABLE POLYCARBONATE VEHICLE SIGNAL HEAD WITH MAST ARM MOUNTING HARDWARE AND TUNNEL VISORS
900000	817	3 EA.	FOUR-CHANNEL, RACK MOUNT, LOOP DETECTOR AMPLIFIER (DELAY OUTPUT)

PHASE DIAGRAM



THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS
OWINGS MILLS, MARYLAND

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

CATEGORY CODE NO.	SPEC. SECTION	QUANTITY	DESCRIPTION
203030	205	4 C.Y.	TEST PIT EXCAVATION
801004	801	14 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
801106	812	150 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 IN. X 6 IN.
802501	810	90 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
805105	805	50 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
805160	805	60 L.F.	FURNISH AND INSTALL 1 IN. LIQUID-TIGHT NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
810010	810	100 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR (NO. 4 A.W.G. THHN/THWN)
811001	811	11 EA.	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813010	813	2 EA.	BAND SIGN TO SIGN SUPPORT (OVERHEAD)
813014	813	89 S.F.	INSTALL GROUND MOUNTED SIGN
813015	813	94 S.F.	INSTALL OVERHEAD SIGN
837001	804	4 EA.	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FT. LENGTH
838003	807	1 EA.	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240V, 1 PHASE, 3 WIRE SYSTEM)
860035	814	6 EA.	INSTALL 12 IN. 1 WAY 3 SECTION (R,Y,G) POLYCARBONATE SIGNAL HEAD - MAST ARM MOUNT
860040	814	2 EA.	INSTALL 12 IN. 1 WAY 5 SECTION (R,Y,G,Y,GA) POLYCARBONATE SIGNAL HEAD - MAST ARM MOUNT
861104	810	900 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
861107	810	150 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
861108	810	1250 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
861116	810	425 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.)
862101	810	2700 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
862102	815	900 L.F.	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
866103	818	1 EA.	FURNISH AND INSTALL 15 FT. LIGHTING ARM ON SIGNAL STRUCTURE
866104	818	1 EA.	FURNISH AND INSTALL 20 FT. LIGHTING ARM ON SIGNAL STRUCTURE
871117	816	1 EA.	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT
800000	810	80 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
800000	805	380 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
800000	805	90 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
800000	806	2 EA.	FURNISH AND INSTALL 250 WATT HPS VAPOR LUMINAIRE WITH PHOTO-CELL
800000	810	2 EA.	FURNISH AND INSTALL MICRO LOOP PROBE SET (SET OF 3) WITH 500 FT. LEAD-IN
800000	810	2 EA.	FURNISH AND INSTALL MICRO LOOP PROBE SET (SET OF 3) WITH 1000 FT. LEAD-IN
800000	814	2 EA.	INSTALL 8 IN./12 IN. 1 WAY 5 SECTION (8" R,Y,G - 12" Y,A,GA) POLYCARBONATE SIGNAL HEAD - MAST ARM MOUNT
800000	818	1 EA.	FURNISH AND INSTALL 27 FT. STEEL MAST ARM POLE WITH TWIN 60 FOOT AND 40 FOOT MAST ARMS
800000	818	1 EA.	FURNISH AND INSTALL 27 FT. STEEL MAST ARM POLE WITH A SINGLE 40 FOOT MAST ARM
800000	818	1 EA.	FURNISH AND INSTALL 27 FT. STEEL MAST ARM POLE WITH A SINGLE 60 FOOT MAST ARM

REVISIONS

ASST. DIVISION CHIEF, TEDD

APPROVALS

ASST. DISTRICT ENGINEER, TRAFFIC

CHEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, OFFICE OF TRAFFIC & SAFETY

LOG MILE NO. 23058903.60

DATE 12/10/97

DRAWN BY: T.E.S.A.M.

F.A.P. NO.

SEE TITLE SHEET

PLAN SHEET NO.

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